

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

5 Claims 1-24 (canceled)

Claim 25 (withdrawn): A composition comprising 16 α -bromo-3 β -hydroxy-5 α -androstan-17-one, 16 α -bromo-2-oxa-3 β -hydroxy-5 α -androstan-17-one, 16 α -bromo-3 β -hydroxy-11-oxa-5 α -androstan-17-one or 16 α -bromo-3 β -hydroxy-5 α -androstan-17-one hemihydrate and one or more nonaqueous liquid excipients, wherein the composition comprises less than about 3% v/v water.

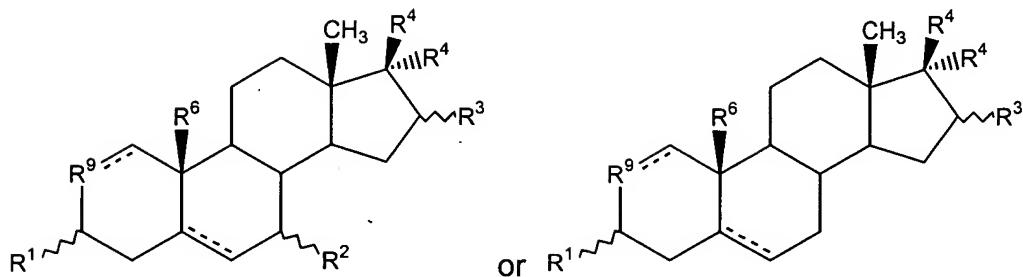
10 Claim 26 (withdrawn): The composition of claim 25 wherein the composition comprises less than about 0.3% v/v water.

15 Claim 27 (withdrawn): The composition of claim 25 wherein the one or more nonaqueous liquid excipients are two or more of an alcohol, a polyethylene glycol, propylene glycol and benzyl benzoate.

20 Claim 28 (withdrawn): The composition of claim 25 wherein the composition is a parenteral formulation.

Claims 29-49 (canceled)

25 Claim 50 (new): A method to treat or prevent an innate immune suppression condition in a subject selected from the group consisting of a human and a non-human primate, wherein the method comprises administering 1-10 mg/kg/day to the human or about 4-40 mg/kg/day of a compound to the non-human primate whereby the numbers of neutrophils in circulation in the human or 30 non-human primate is increased, wherein the compound has the structure



wherein, the dotted lines are optional double bonds and the hydrogen atom at the 5-position, if present, is in the α -configuration;

5 R^1 is -H, - OR^{PR} , - $S R^{PR}$, an ester, a thioester, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, an ether, a thioether, a carbonate or a thioacetal;

10 R^2 is - OR^{PR} , =O, - $S R^{PR}$, =S, -CN, =NOH, =NOC(O)CH₃, an ester, a thioester, an ether, a thioether, an acyl group, a thioacyl group, a carbonate, a thioacetal, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

15 R^3 is -H, - OR^{PR} , =O, - $S R^{PR}$, =S, - $N(R^{PR})_2$, -N₃, -CN, -NO₂, -F, -Cl, -Br, -I, an ester, a thioester, a thioacetal, an ether, a thioether, a carbamate, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

20 R^4 in the β -configuration is - OR^{PR} , - $S R^{PR}$, an ester, a thioester, phosphate, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, a sulfite ester, a sulfate ester, an ether, a thioether, a carbonate, a thioacetal, or a polymer;

25 R^4 in the α -configuration is -H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^6 is -H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^9 is -CHR¹⁰- where R¹⁰ is -H, - OR^{PR} , =O, - $S R^{PR}$, =S, a halogen, an ester, an ether, a phosphoester, a carbonate, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

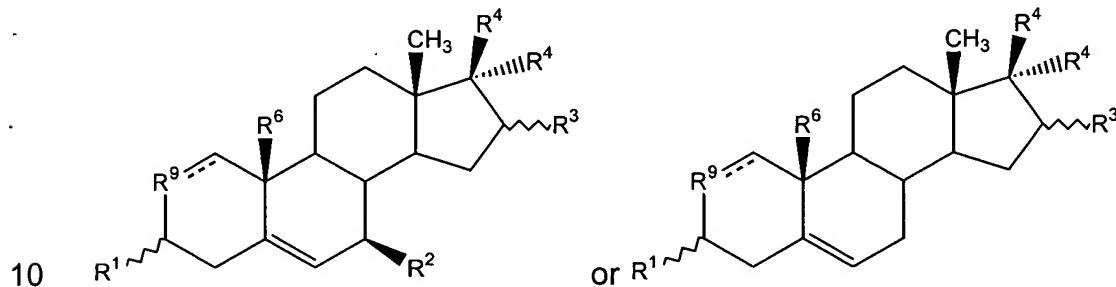
25 and

R^{PR} independently are -H or an independently selected protecting group.

Claim 51 (new): The method of claim 50 wherein the innate immune suppression condition is associated with a chemotherapy, radiation, aging, autologous bone marrow transplantation or stem cell transplantation.

5 Claim 52 (new): The method of claim 51 wherein the innate immune suppression condition is associated with radiation.

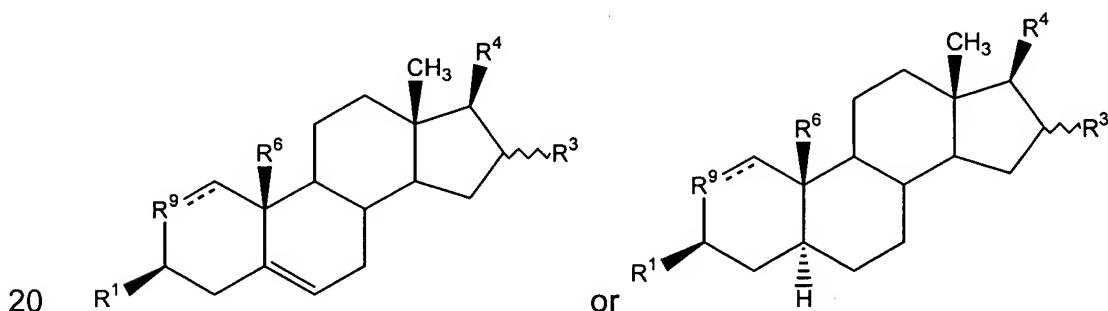
Claim 53 (new): The method of claim 52 wherein the compound has the structure



Claim 54 (new): The method of claim 53 wherein R¹ is -H, -OH, -SH, an ester, an ether or a carbonate.

15 Claim 55 (new): The method of claim 54 wherein R⁴ is -OH, -SH, an ester, phosphate, a phosphoester or an ether.

Claim 56 (new): The method of claim 55 wherein the compound has the structure

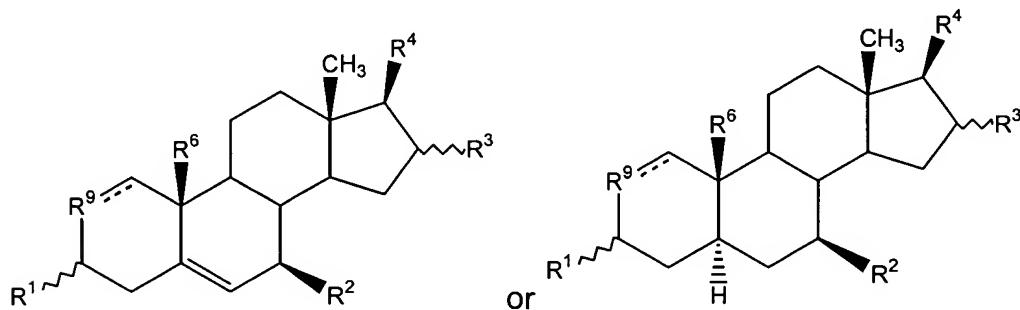


Claim 57 (new): The method of claim 56 wherein R³ is -F, -Cl, -Br, -I, -OH, =O, -SH, =S, an ester, an ether, a thioester, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

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Claim 58 (new): The method of claim 56 wherein R⁹ is -CH₂-, -CH(OH)-, -C(O)-, or -CHR¹⁰-, wherein R¹⁰ is a halogen, an ester, an ether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

10 Claim 59 (new): The method of claim 52 wherein the compound has the structure



and R² is -OH, =O, an ester, an ether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

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Claim 60. (new): The method of claim 52 wherein the compound is 3 β ,17 β -dihydroxyandrost-5-ene, 3 α ,17 β -dihydroxyandrost-5-ene, 16 α -fluoro-17 β -dihydroxyandrost-5-ene, 16 α -fluoro-17 α -dihydroxyandrost-5-ene, 16 α -fluoro-17-oxoandrost-5-ene, 3 β ,7 β ,17 β -trihydroxyandrost-5-ene, 3 α ,7 β ,17 β -trihydroxyandrost-5-ene, 3 β ,16 β ,17 β -trihydroxyandrostane, 3 β ,16 α ,17 β -trihydroxyandrostane, 3 α ,16 α ,17 β -trihydroxyandrostane or an ester or ether derivative of any of these compounds.

25 Claim 61 (new): The method of claim 60 wherein the compound is 3 β ,17 β -dihydroxyandrost-5-ene.

Claim 62 (new): The method of claim 61 wherein the subject is a human.

Claim 63 (new): The method of claim 62 wherein the $3\beta,17\beta$ -dihydroxyandrost-5-ene is administered to the human for 4 or 5 consecutive 5 days.

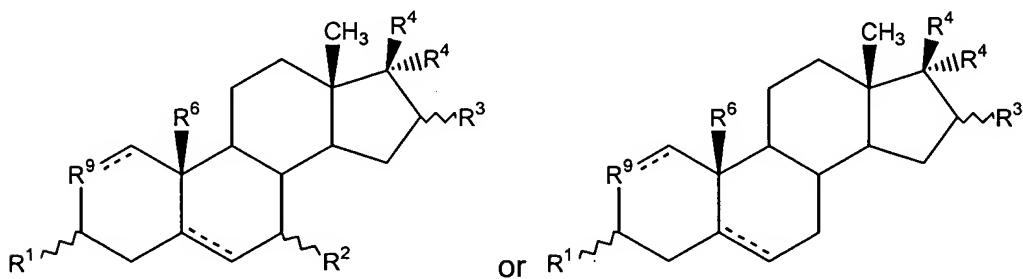
Claim 64 (new): The method of claim 62 wherein the $3\beta,17\beta$ -dihydroxyandrost-5-ene is administered to the human for 5 or 6 consecutive days.

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Claim 65 (new): The method of claim 63 wherein the $3\beta,17\beta$ -dihydroxyandrost-5-ene is administered daily for 3, 4, 5, 6 or 7 consecutive days.

Claim 66 (new): The method of claim 53 wherein the non-human primate 15 is a chimpanzee, a cynomolgus monkey or a macaque monkey.

Claim 67 (new): A method to treat or prevent an innate immune suppression condition in a subject selected from the group consisting of a human and a non-human primate, wherein the method comprises administering an 20 effective amount of a compound for 3 to 15 consecutive days to the subject whereby the numbers of neutrophils in circulation in the human or primate is increased, wherein the compound has the structure



wherein, the dotted lines are optional double bonds and the hydrogen 25 atom at the 5-position, if present, is in the α -configuration;

R¹ is -H, -OR^{PR}, -SR^{PR}, an ester, a thioester, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, an ether, a thioether, a carbonate or a thioacetal;

5 R² is -OR^{PR}, =O, -SR^{PR}, =S, -CN, =NOH, =NOC(O)CH₃, an ester, a thioester, an ether, a thioether, an acyl group, a thioacyl group, a carbonate, a thioacetal, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

10 R³ is -H, -OR^{PR}, =O, -SR^{PR}, =S, -N(R^{PR})₂, -N₃, -CN, -NO₂, -F, -Cl, -Br, -I, an ester, a thioester, a thioacetal, an ether, a thioether, a carbamate, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

15 R⁴ in the β -configuration is -OR^{PR}, -SR^{PR}, an ester, a thioester, phosphate, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, a sulfite ester, a sulfate ester, an ether, a thioether, a carbonate, a thioacetal, or a polymer;

20 R⁴ in the α -configuration is -H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R⁶ is -H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

25 R⁹ is -CHR¹⁰- where R¹⁰ is -H, -OR^{PR}, =O, -SR^{PR}, =S, a halogen, an ester, an ether, a phosphoester, a carbonate, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl; and

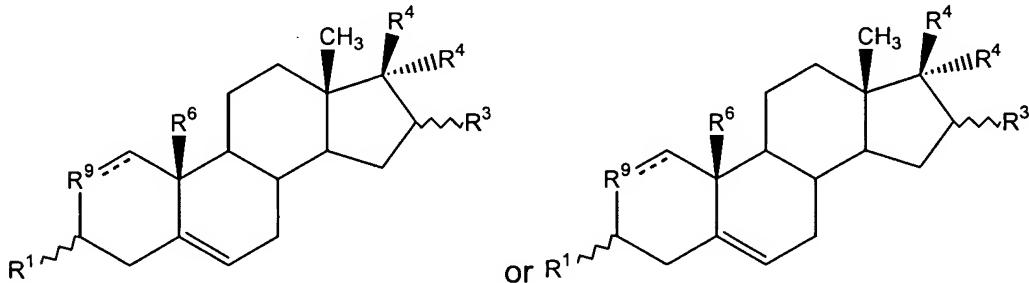
R^{PR} independently are -H or an independently selected protecting group.

30 Claim 68 (new): The method of claim 67 wherein the innate immune suppression condition is associated with chemotherapy, radiation, aging, autologous bone marrow transplantation or stem cell transplantation.

Claim 69 (new): The method of claim 68 wherein the innate immune suppression condition is associated with radiation.

Claim 70 (new): The method of claim 68 wherein the innate immune suppression condition is associated with chemotherapy.

5 Claim 71 (new): The method of claim 69 wherein the compound has the structure



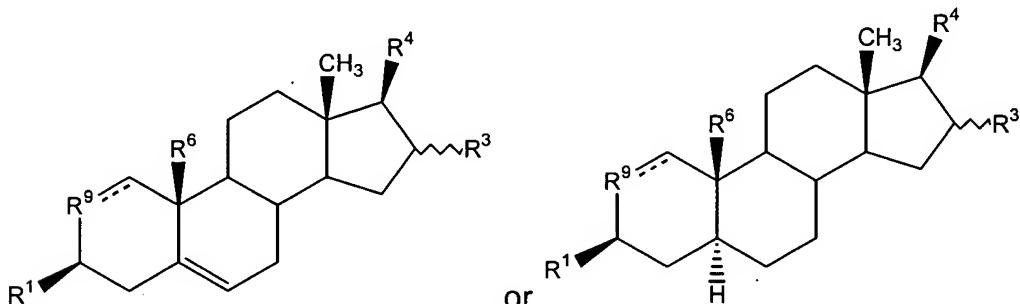
Claim 72 (new): The method of claim 71 wherein R¹ is -H, -OH, -SH, an ester, an ether or a carbonate.

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Claim 73 (new): The method of claim 72 wherein R⁴ is -OH, -SH, an ester, phosphate, a phosphoester or an ether.

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Claim 74 (new): The method of claim 73 wherein the compound has the structure



Claim 75 (new): The method of claim 74 wherein R³ is -F, -Cl, -Br, -I, -OH, =O, -SH, =S, an ester, an ether, a thioester, a thioacetal, a thioether, 20 optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

Claim 76 (new): The method of claim 74 wherein R⁹ is -CH₂- , -CH(OH)-, -C(O)-, or -CHR¹⁰- , wherein R¹⁰ is a halogen, an ester, an ether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

5 Claim 77 (new): The method of claim 69 wherein the compound is 3 β ,17 β -dihydroxyandrost-5-ene, 3 α ,17 β -dihydroxyandrost-5-ene, 16 α -fluoro-17 β -dihydroxyandrost-5-ene, 3 β ,7 β ,17 β -trihydroxyandrost-5-ene, 3 α ,7 β ,17 β -trihydroxyandrost-5-ene, 3 β ,16 β ,17 β -trihydroxyandrostane, 3 α ,16 β ,17 β -trihydroxyandrostane, 3 β ,16 α ,17 β -trihydroxyandrostane, 3 α ,16 α ,17 β -trihydroxyandrostane or an ester or ether derivative of any of these compounds.

10 Claim 78 (new): The method of claim 77 wherein the compound is 3 β ,17 β -dihydroxyandrost-5-ene.

15 Claim 79 (new): The method of claim 77 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is administered daily for 4, 5 or 6 consecutive days and the subject is a human.